DOCUMENTATION FOR GIF2HR/LBR

INTRODUCTION:

GIF2HR/LBR is designed as a way to convert GIF files to HR format and,
if you want, display them on your Hi-res screen (R/S or Micro-Labs). You must
have GBW4D ("Printing graphics" library in PICS forum) to be able to convert
GIF pictures. I claim no responsability as to the use or misuse of this
software. I also decline responsability for any loss of data or damage to equipm
ent resulting from the use of any part of GIF2HR/LBR.

PROBLEM FACED:

When attempting to decode GIF images for the TRS, one is faced with three
difficulties: first, the data must be decompressed using the LZW algorithm;
second, the colors must be converted to a series of gray shades (also known as
"dithering"); third, our pixel size is not compatible with that of other
computers (it is too narrow).
These problems were solved in the following ways:
1) and 2): GBW4D both decompresses data and performs the dithering... but it
   only writes to the printer...
3) correct pixel size is restored by doubling the width of each pixel in the
   image obtained from GBW4D

HOW TO CONVERT GIF TO HR:

From TRSDOS (or LSDOS) ready, enter:

```
        ROUTE *DK TO filespec/PRN:drive
        ROUTE *PR TO *DK
        GBW4D filespec/GIF
        RESET *DK
        RESET *PR
        PRN2HR
```


TECHNICAL INFORMATION:

The image is obtained from GBW4D by fooling it in believing a PRN file is the
printer. This is done through logical device re-routing.

Once this is completed, the image is stored in filespec/PRN. We only have to
take this PRN file and convert it to HR format and/or display it on the screen.
As a bonus, you can print copies of the image (provided you have a suitable
printer) easily by LIST filespec/PRN (P).

In the PRN file, the image is stored in vertical data bytes suitable for
printer output. PRN2HR then takes image bytes from the PRN file, doubles pixel
width, negates them (to compensate for the difference in background color
between printer and screen), and rotates them, four at a time, to produce
horizontal data bytes for hi-res output.

LIMITATIONS:

The first limitation is the screen and pixel size on the TRS: the maximum
image width that will fit the screen is 320. That cannot be changed without
some heavy hardware hacking.

The second one is convenience, but I believe it is offset by the fact that
this is -to my knowledge- the only way to convert GIF images for TRS screen
use.

The third is speed - up to 7 minutes to run PRN2HR.. Cheer up! the original
interpreted BASIC version of this program took more than one hour to do it!

The fourth is shade discrimination: you can't distinguish easily colors of
similar brightness. Because of that, some pictures will be disappointing;
however, I am currently studying ways to overcome that problem.

Questions or comments? Leave me a message through EMAIL.

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